SM91525AL BMS Transformer

Features
- Pin auto-termination
- Working voltage: 1000 VDC
- Hi-Pot: 4300 VDC
- Single channel with integrated choke
- Developed for use with TI BQ79616
- Functional insulation
- AEC-Q200 compliant
- RoHS compliant*

General Specifications
- OCL (100 kHz / 0.1 V, -40 °C ~ +125 °C)
- 300 μH ~ 1000 μH
- Leakage Inductance (100 kHz/0.1 V)
- 0.5 μH max.
- DCR
  - Transformer Side: 0.9 Ω max.
  - CM Choke Side: 1.1 Ω max.
- Turns Ratio: 1 : 1 ± 2%
- Insertion Loss:
  - 1-80 MHz: -1.0 dB max.
  - 125 MHz: -3.0 dB max.
- Return Loss (Z out = 100 Ω)
  - 1-30 MHz: -16 dB min.
  - 30-60 MHz: -12 dB min.
  - 60-80 MHz: -10 dB min.
- Hi-pot (1 mA, 60 S): 4300 VDC
- Working Voltage: 1000 VDC
- Operation Temperature: -40 °C to +125 °C
- Storage Temperature Range: -50 °C to +125 °C
- Moisture Sensitivity Level: 1
- ESD Classification (HBM): N/A

Packaging Specification
- Tape & Reel: 700 pcs. per 13-inch reel

Recommended Layout

**WARNING** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

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Users should verify actual device performance in their specific applications.
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**Solder Profile**

![Solder Profile Diagram]

<table>
<thead>
<tr>
<th><strong>Reflow Condition</strong></th>
<th><strong>Pb-free Assembly</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average Ramp-up Rate</strong></td>
<td>3 °C / second max.</td>
</tr>
<tr>
<td><strong>Preheat</strong></td>
<td></td>
</tr>
<tr>
<td>Temperature Min. ($T_{\text{tsmin}}$)</td>
<td>150 °C</td>
</tr>
<tr>
<td>Temperature Max. ($T_{\text{tsmax}}$)</td>
<td>200 °C</td>
</tr>
<tr>
<td>Time ($T_{\text{tsmin}}$ to $T_{\text{tsmax}}$)</td>
<td>60 ~ 180 seconds</td>
</tr>
<tr>
<td><strong>Liquidus Temperature ($T_{\text{L}}$)</strong></td>
<td>217 °C</td>
</tr>
<tr>
<td><strong>Time above Liquidus Temperature ($t_{\text{L}}$)</strong></td>
<td>60 ~ 150 seconds</td>
</tr>
<tr>
<td><strong>Peak Temperature ($T_{\text{p}}$)</strong></td>
<td>245 - 250 °C</td>
</tr>
<tr>
<td><strong>Time within 5 °C of Actual Peak Temperature ($T_{\text{p}}$)</strong></td>
<td>20 ~ 40 seconds</td>
</tr>
<tr>
<td><strong>Ramp-down Rate from Peak Temperature</strong></td>
<td>6 °C / second max.</td>
</tr>
<tr>
<td><strong>Time from 25 °C to Peak Temperature ($T_{\text{p}}$)</strong></td>
<td>8 minutes max.</td>
</tr>
<tr>
<td><strong>Do not Exceed</strong></td>
<td>250 °C</td>
</tr>
</tbody>
</table>

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Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.
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